

TEAC



TEAC -00402

SERVICE MANUAL

A-R500/A-R300

Integrated Stereo Amplifier

NOTES

- PC boards shown are viewed from parts side.
- The parts with no reference number or no parts number in the exploded views are not supplied.
- As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
- △ Parts marked with this sign are safety critical components. They must be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
- Parts of [] mark can be used only with the version designated.
[GE]:GENERAL EXPORT [E]:EUROPE [UK]:U.K. [A]:AUSTRALIA

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SPECIFICATIONS

Continuous Power Output:

A-R500

RMS : 90W+90W
(20–20,000Hz, 8 ohms, THD 0.08%)
DIN : 100W+100W(1kHz, 8 ohms)

A-R300

RMS : 45W+45W
(20–20,000Hz, 8 ohms, THD 0.08%)
DIN : 50W+50W(1kHz, 8 ohms)

Total Harmonic Distortion:

0.05%(1kHz, 8 ohms, continuous rated power output)

Input Sensitivity/Impedance:

PHONO:2.8mV/47k ohms
CD, TUNER, AUX, TAPE, VCR:190mV/47k ohms

Signal-to-Noise Ratio(IHF-A):

A-R500

PHONO : 70dB(5mV)
CD, TUNER, AUX, TAPE, VCR : 90dB

A-R300

PHONO : 65dB(5mV)
CD, TUNER, AUX, TAPE, VCR : 85dB

Output Level/Impedance:

TAPE : 150mV/3.3k ohms

Frequency Response:

PHONO : 20-20,000Hz, \pm 1dB(RIAA)
CD, TUNER, AUX, TAPE, VCR:
10-80,000 Hz, +1/-3 dB

Tone Control:

BASS : \pm 10dB(100Hz)
TREBLE : \pm 10dB(10kHz)

Muting :

-20dB

Power Requirements/Power Consumption :

A-R500

230V AC, 50Hz, 350W(Europe)
115/230V AC, 50-60Hz, 350W(General Export)

A-R300

230V AC, 50Hz, 195W(Europe)
115/230V AC, 50-60Hz, 195W(General Export)

Dimensions(W \times H \times D) :

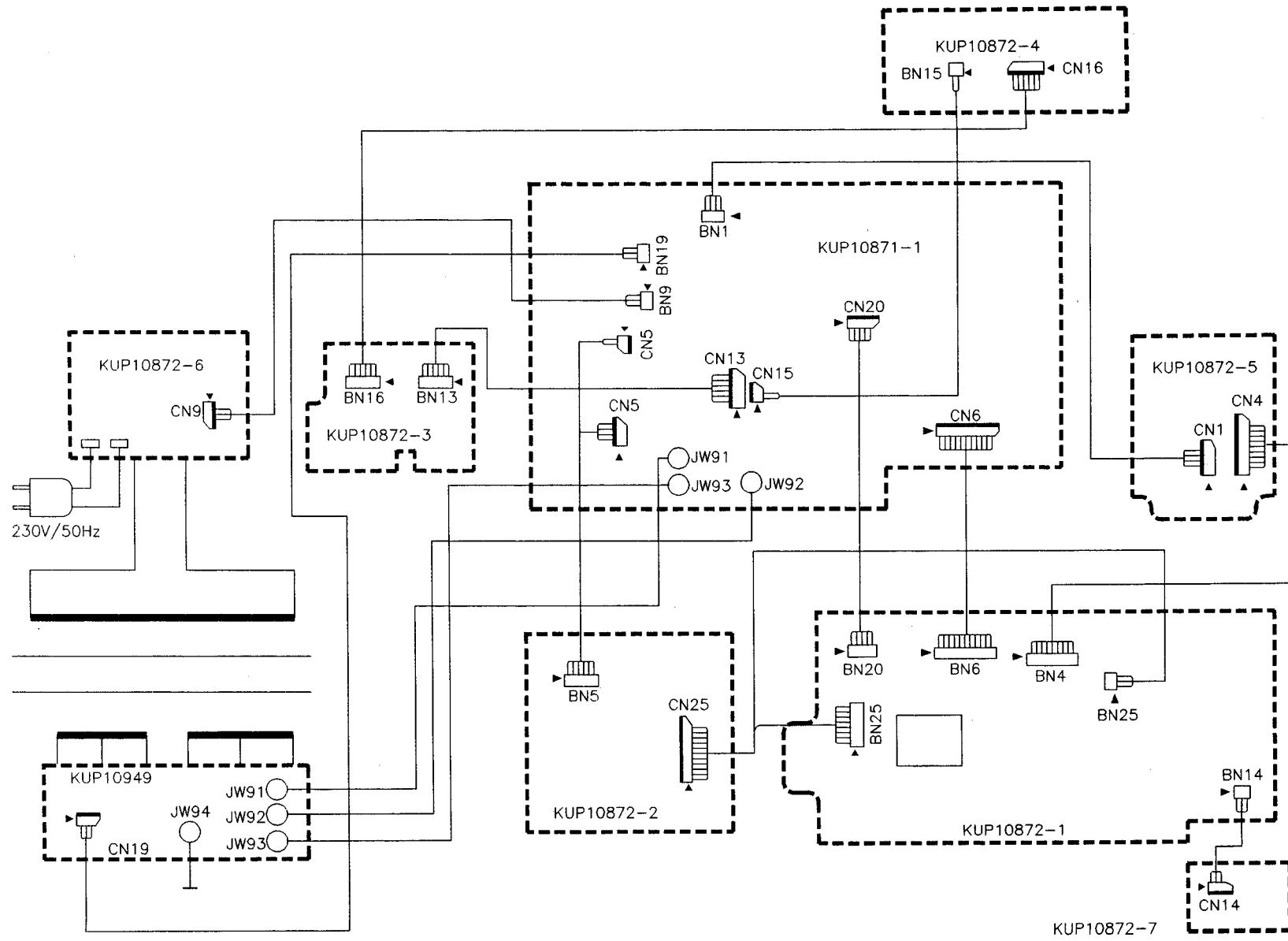
435 \times 135 \times 340mm

Weight(net) :

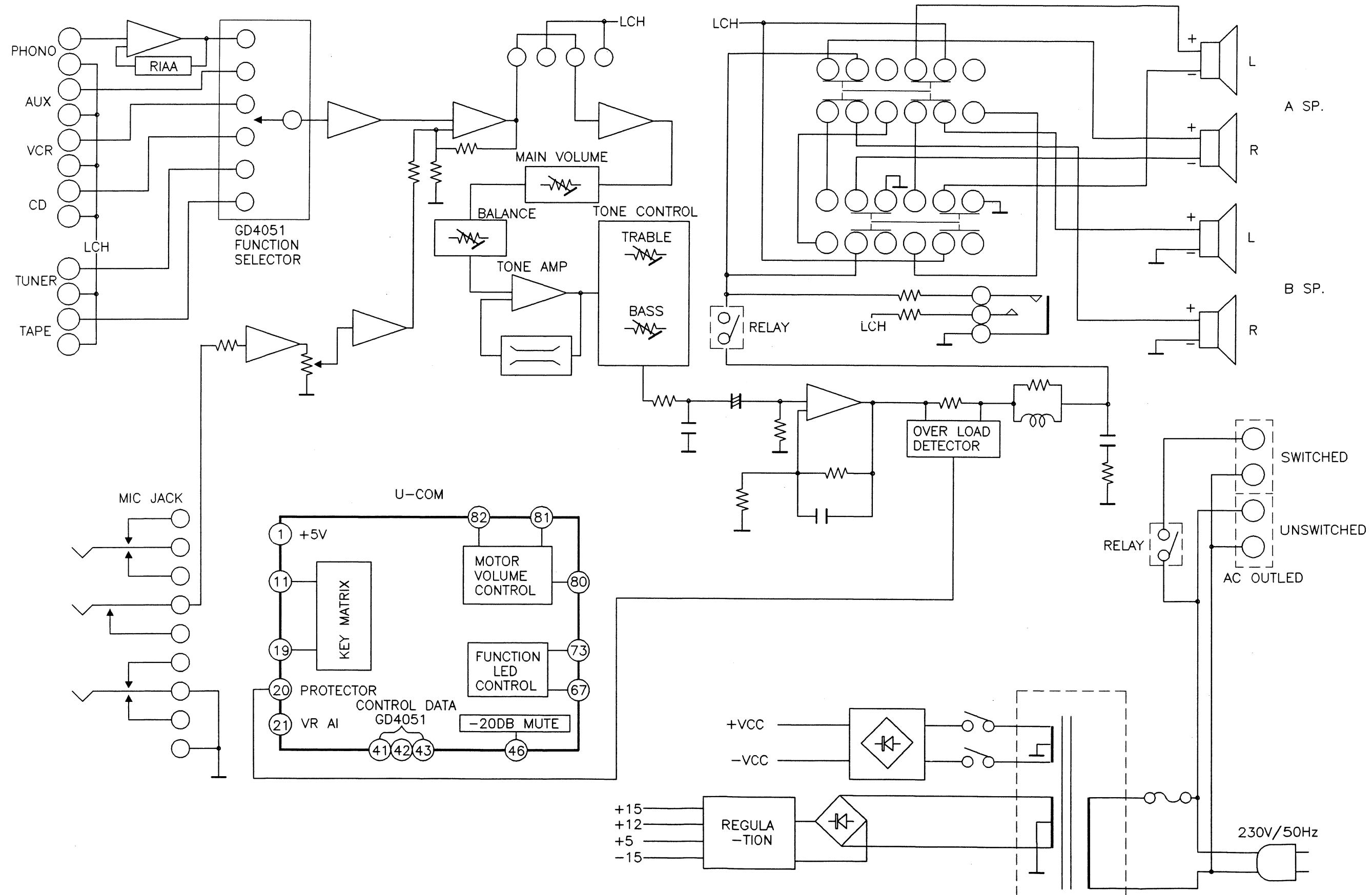
A-R500 : 9.9Kg
A-R300 : 8.2Kg

- Improvements may result in specifications and features changing without notice.
- Illustrations may differ slightly from production models.

WIRING DIAGRAM

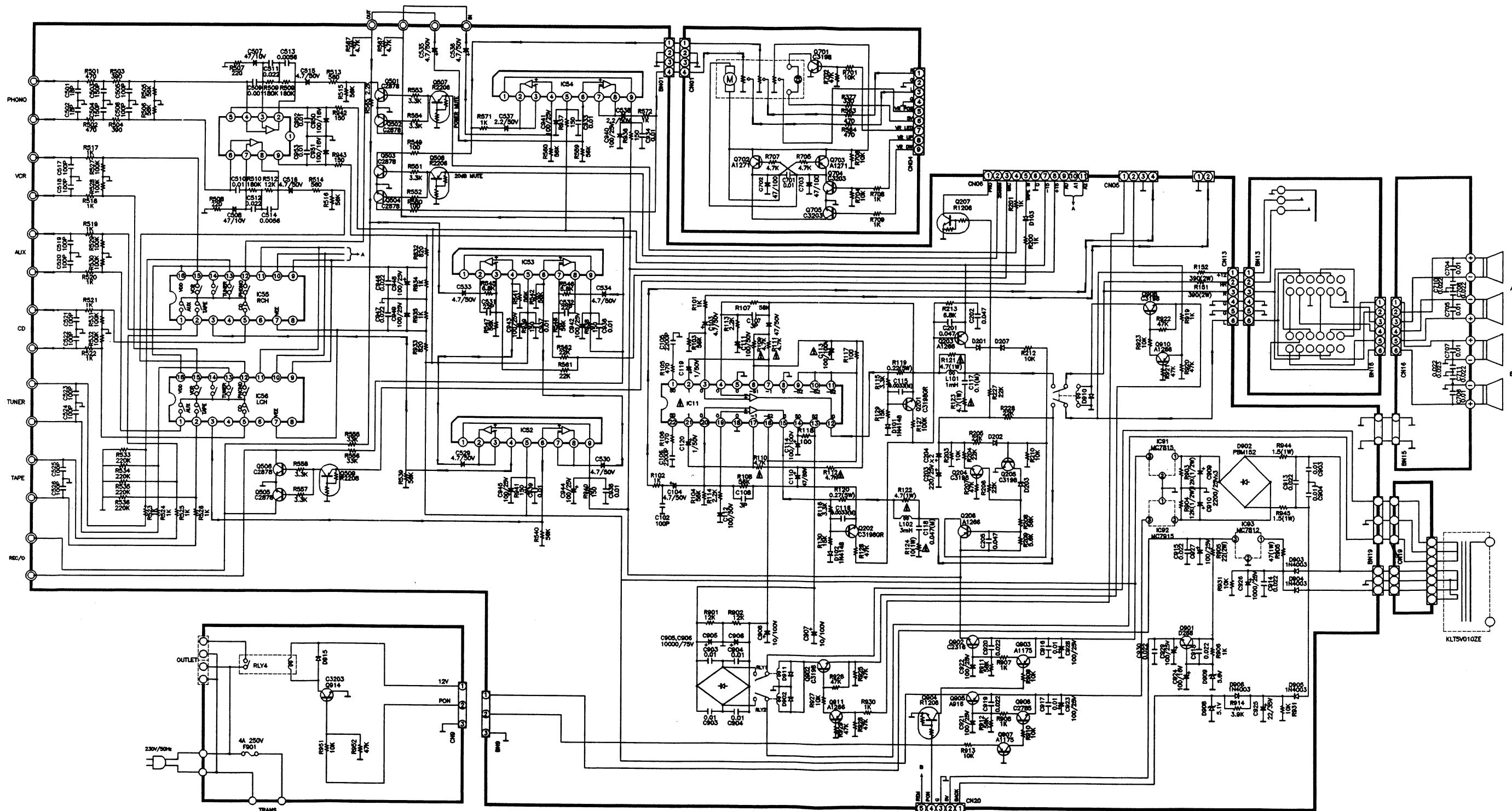


BLOCK DIAGRAM

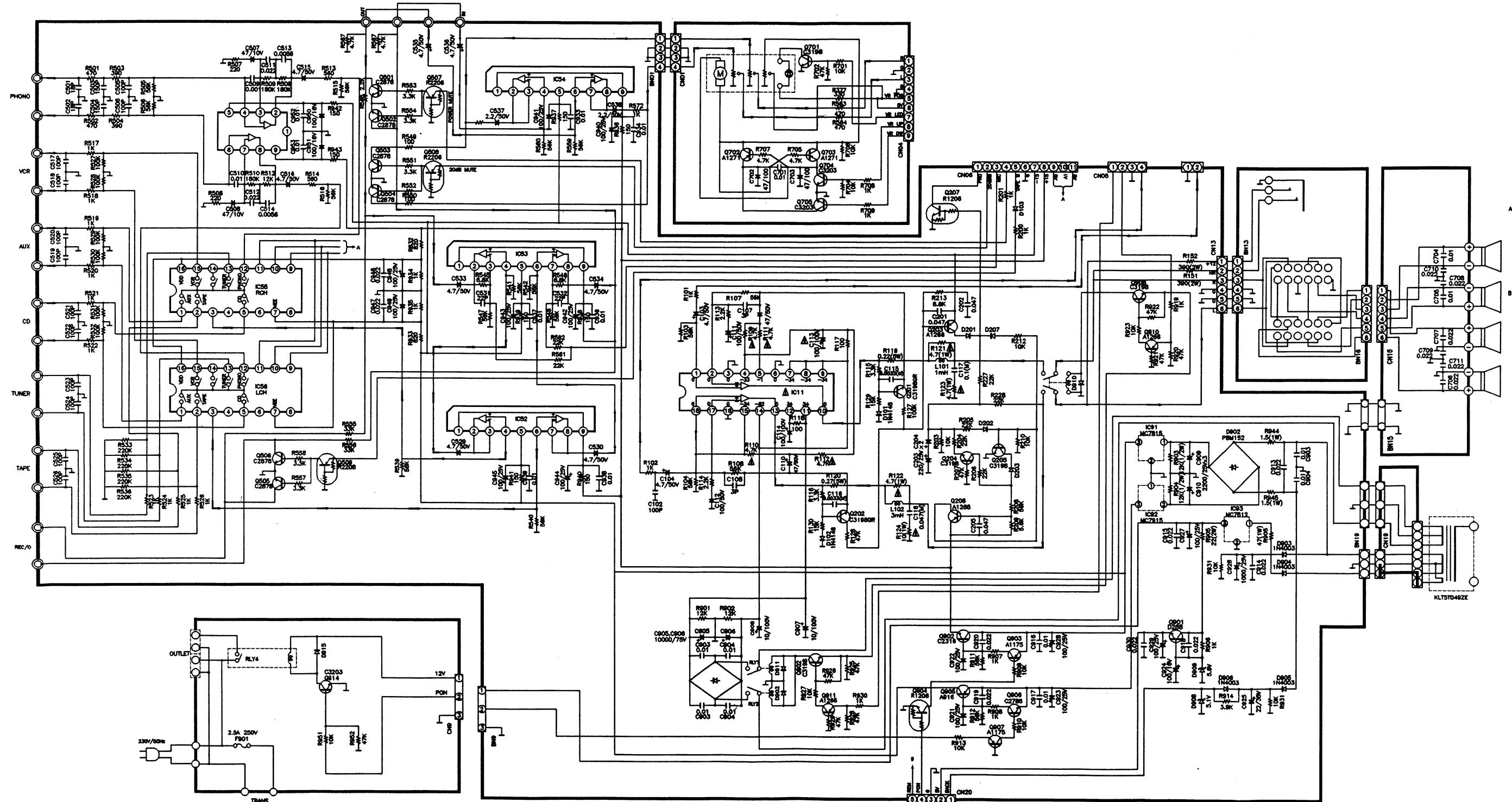


SCHEMATIC DIAGRAM

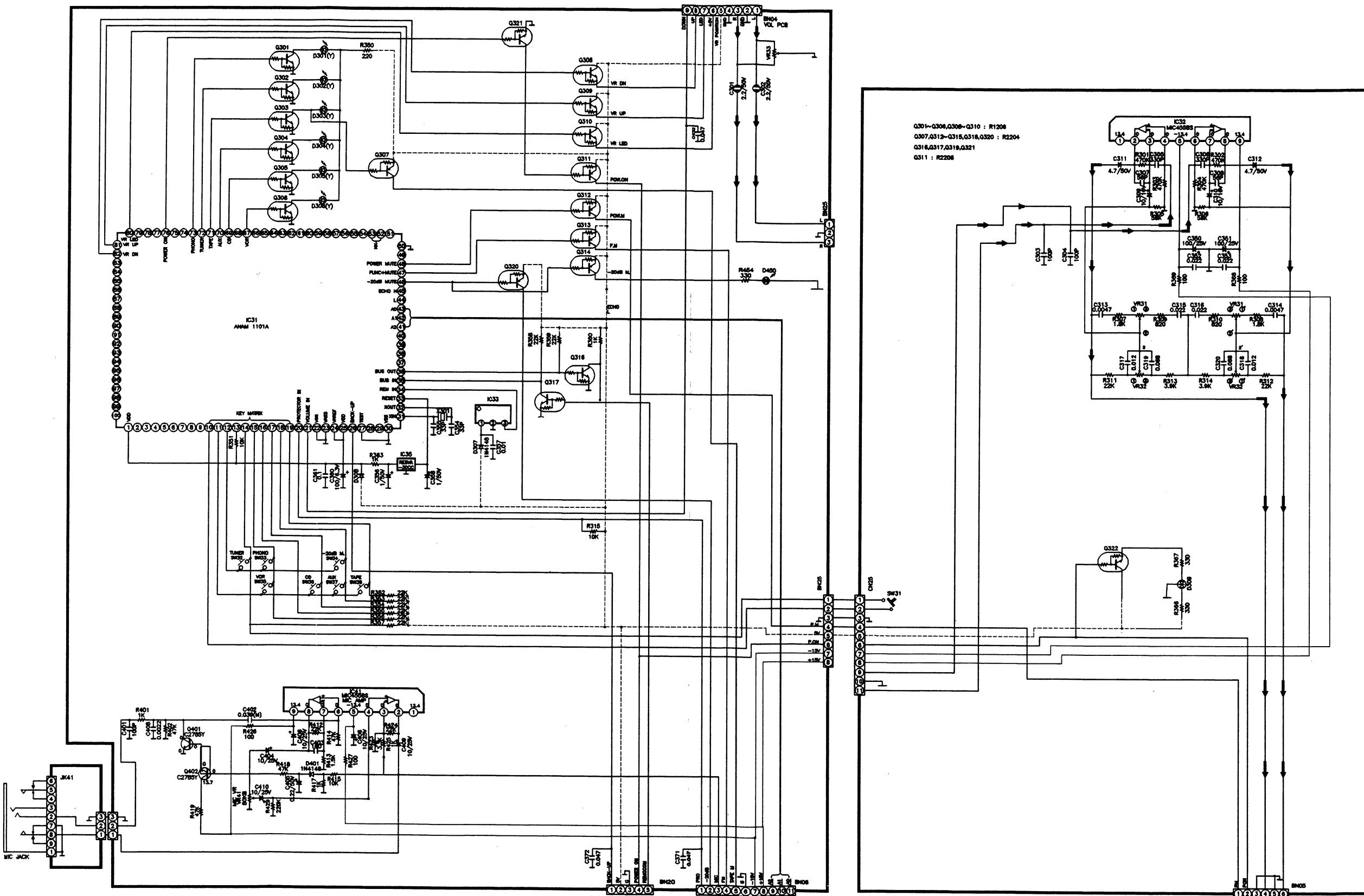
A-R500 (MAIN)



A-R300 (MAIN)

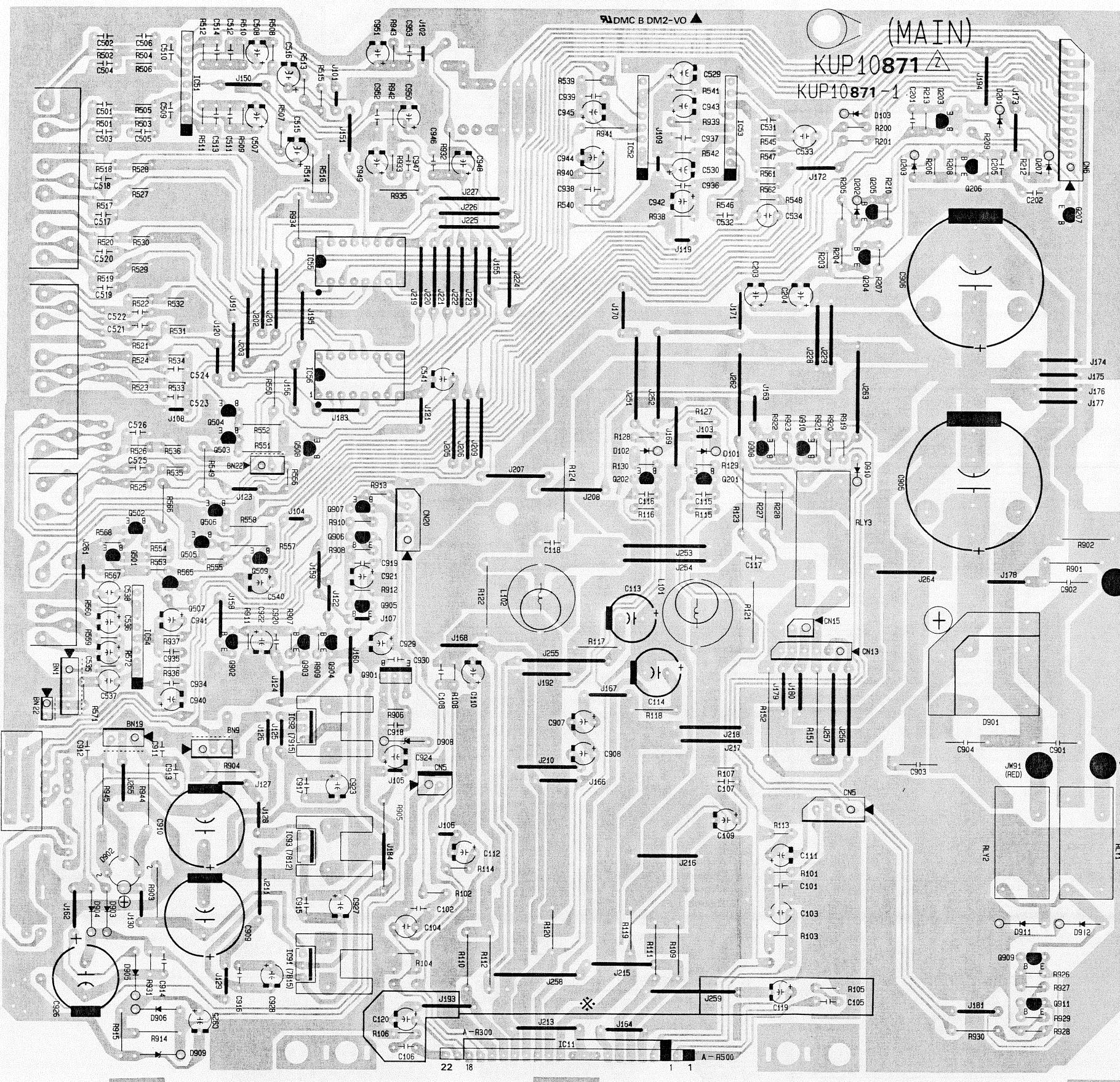


A-R500/ 300(SUB)



PRINTED CIRCUIT BOARDS

- MAIN PCB

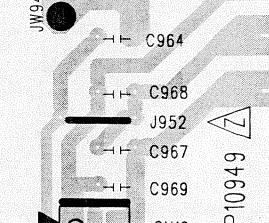
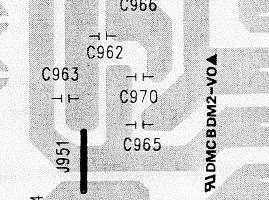
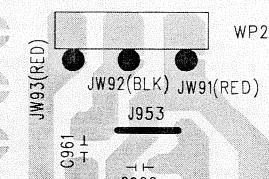
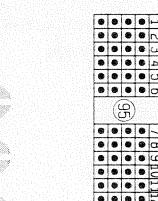
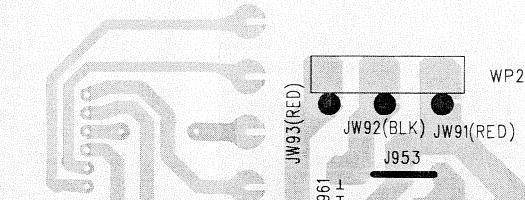
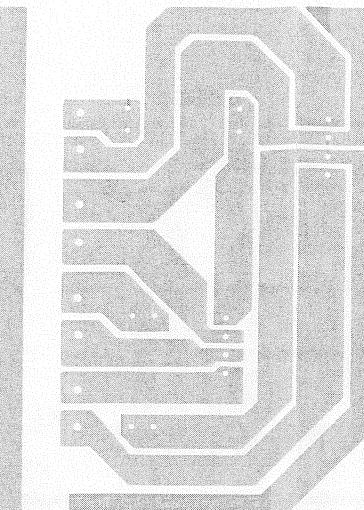


※ : A-R 500 (100W)

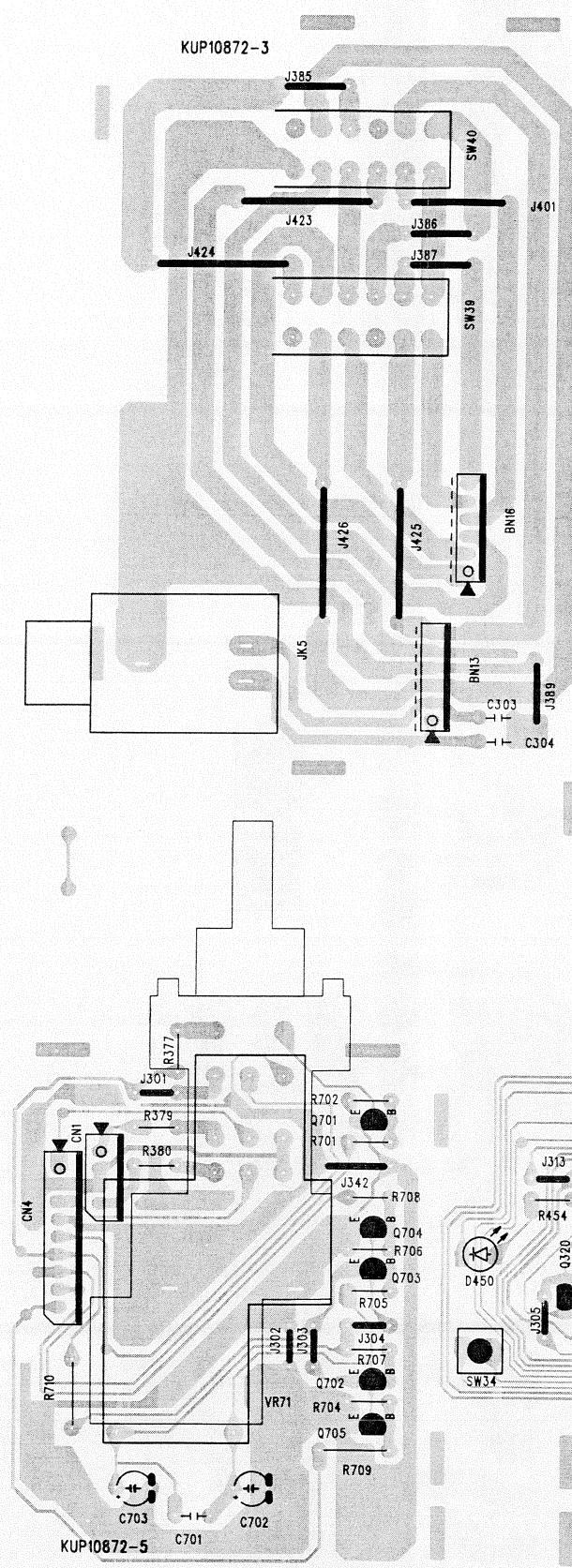
10

A-R 500: 22 PIN

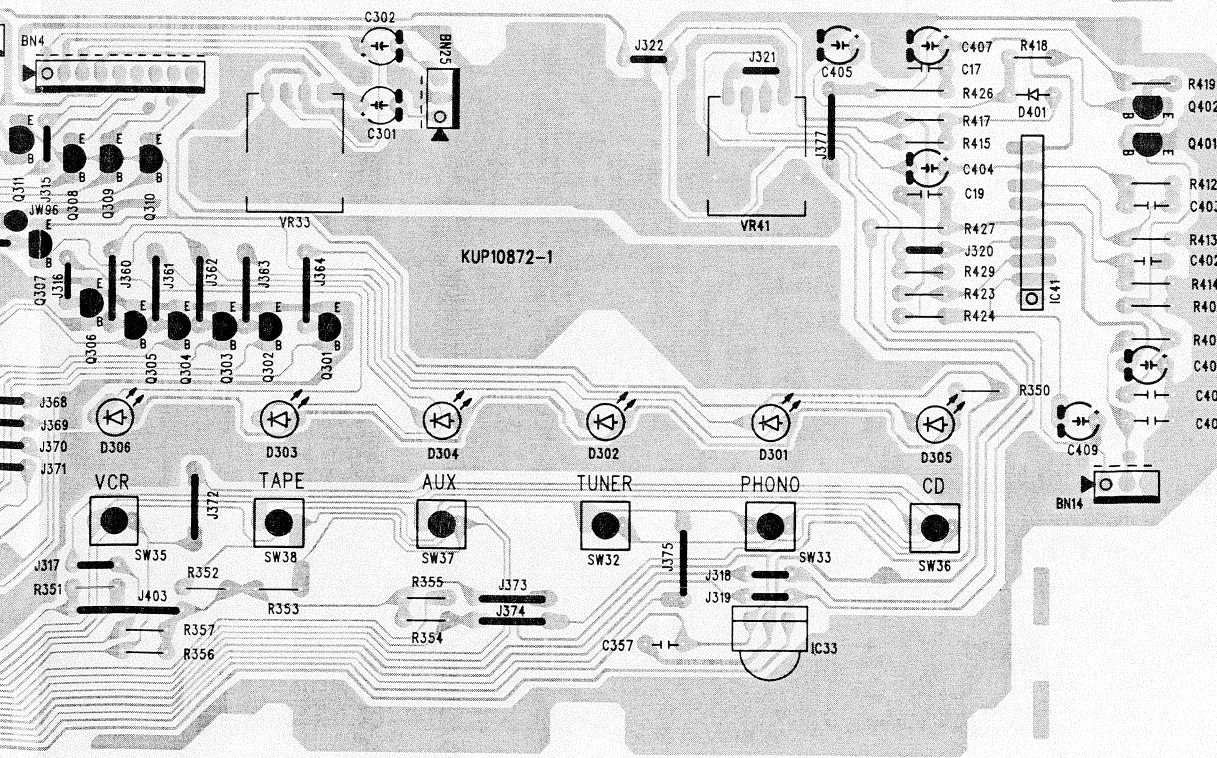
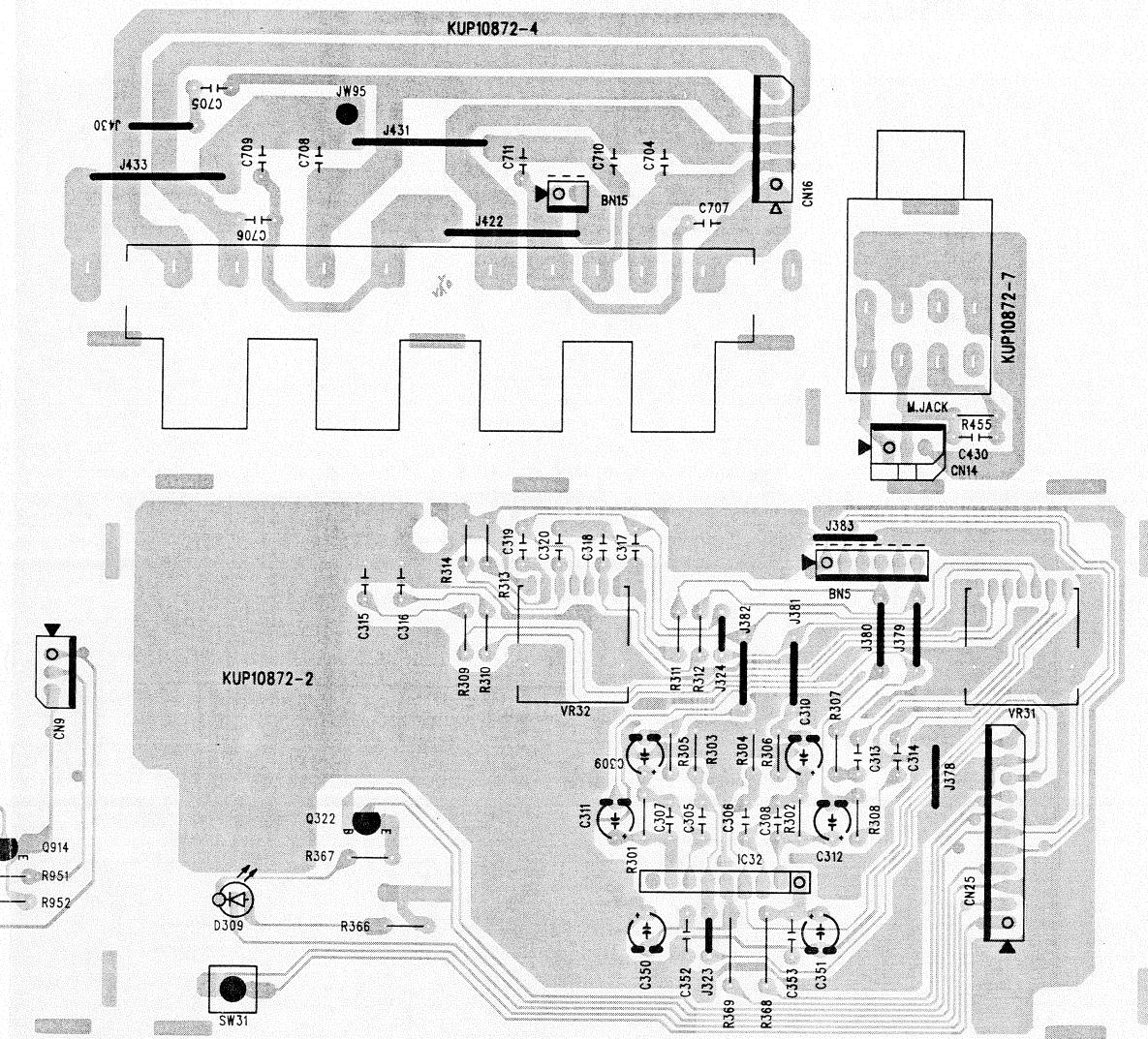
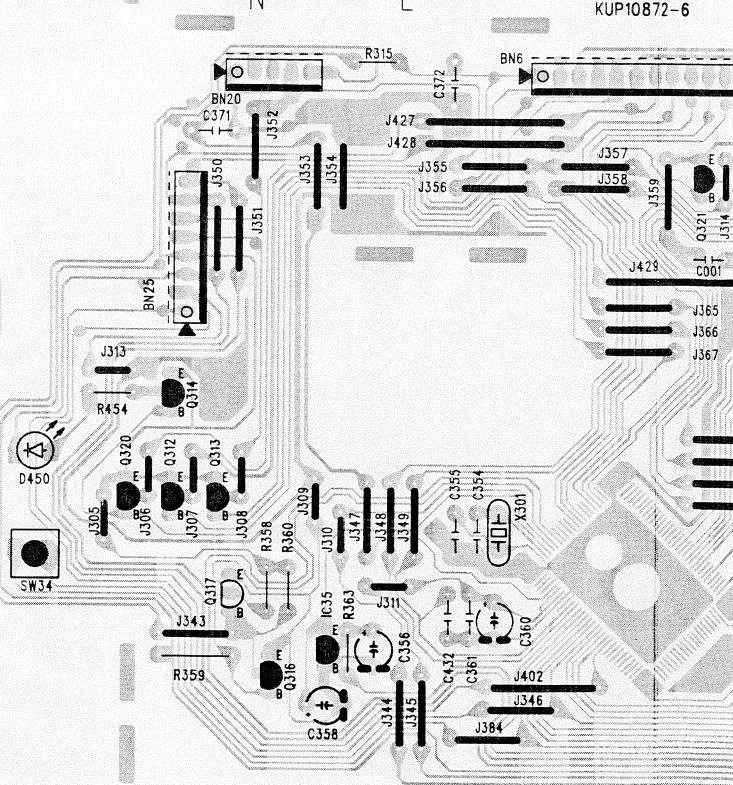
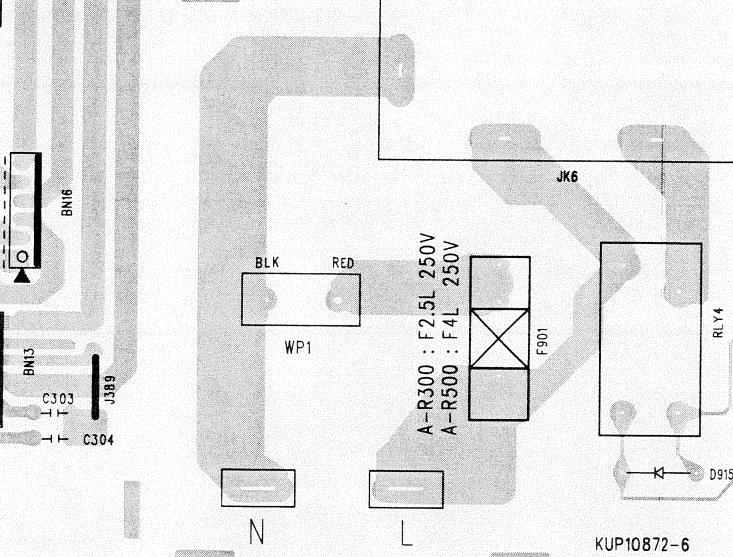
A-R300: 18 PII



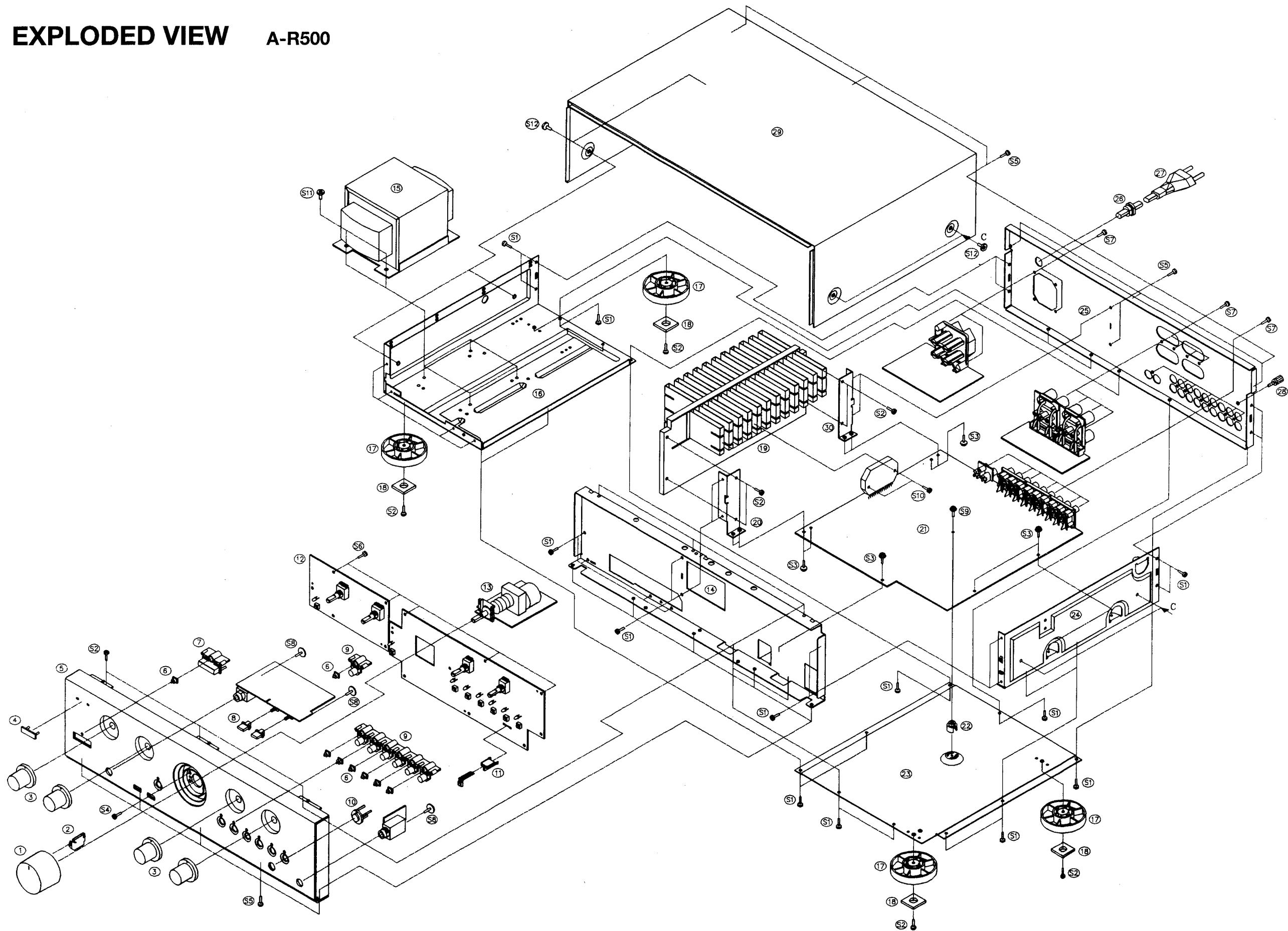
- SUB PCB

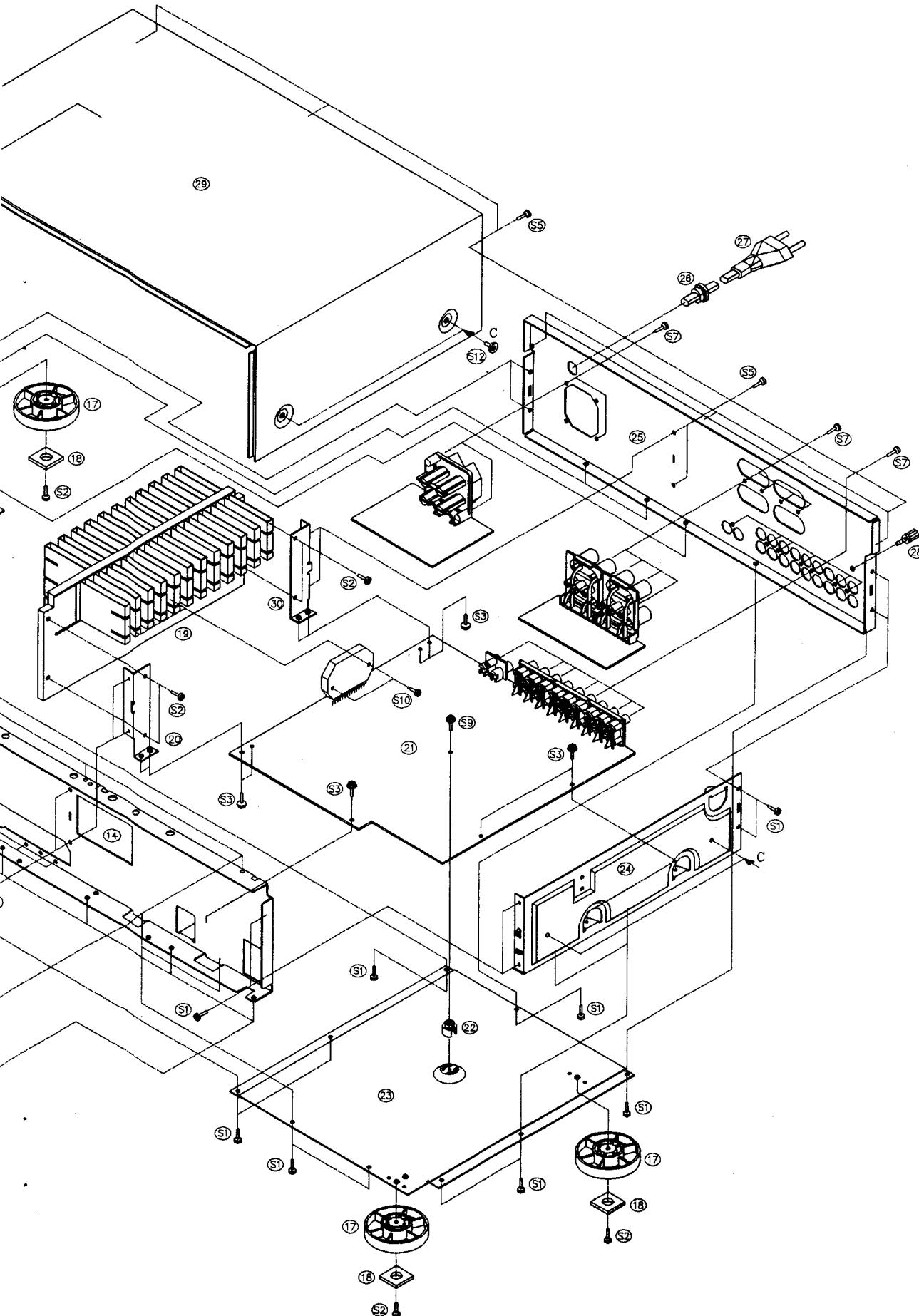


KUP10872 

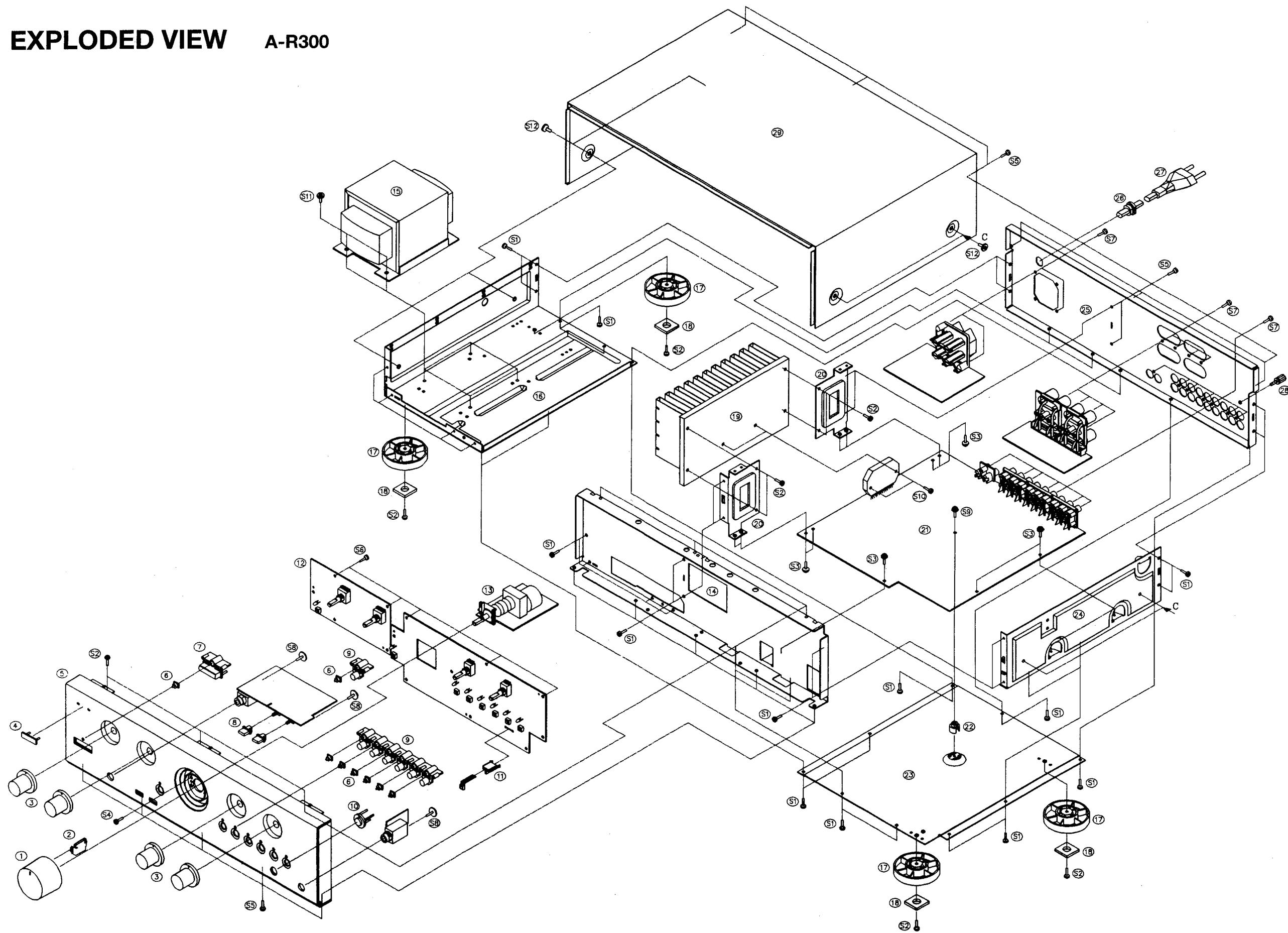


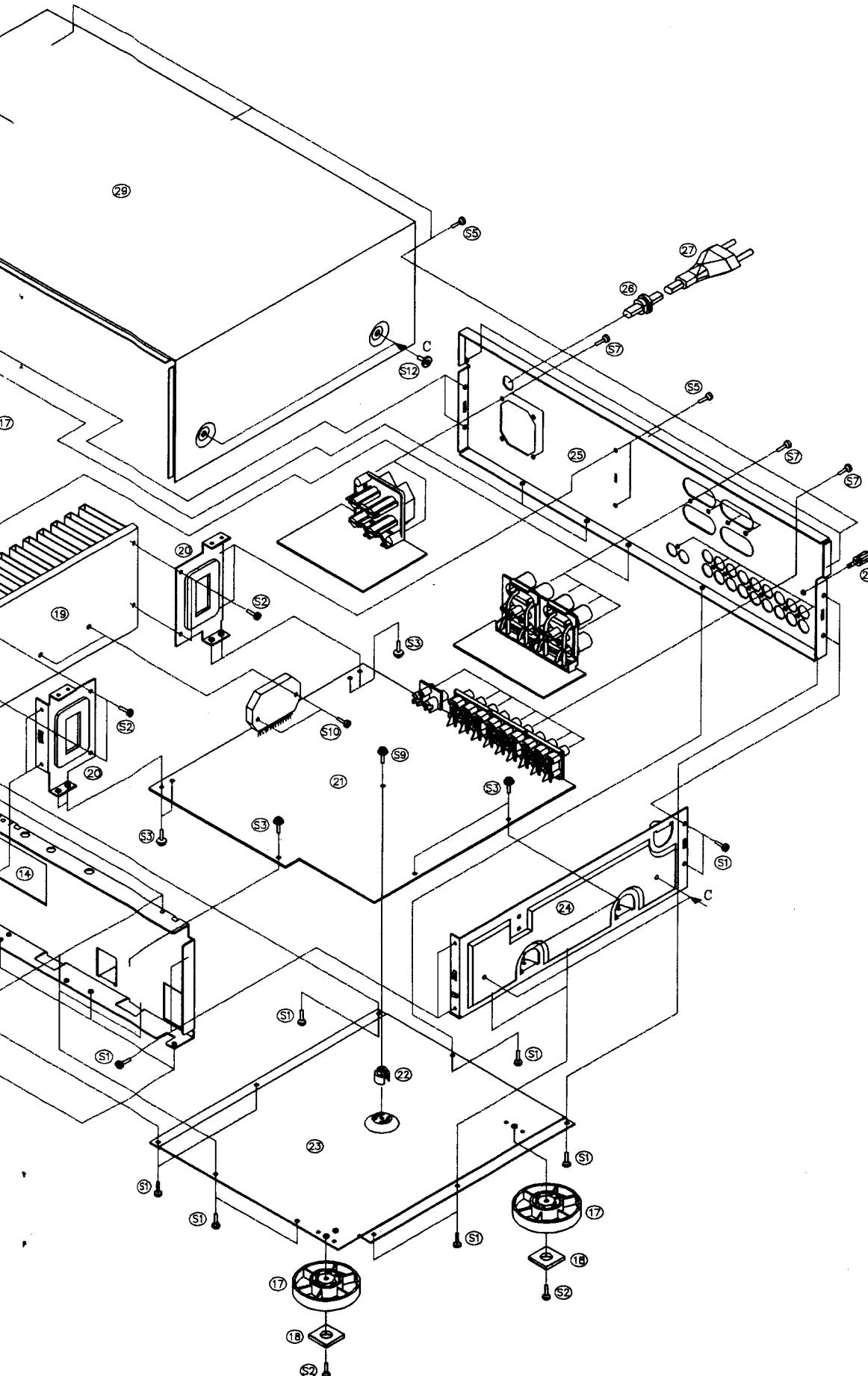
EXPLODED VIEW A-R500





EXPLODED VIEW A-R300





EXPLODED VIEW [A-R300]

| Ref. No. | Part No. | Description | Remarks |
|----------|--------------|------------------|---------|
| 1 | 9A05886600 | KNOB,VOLUME | |
| 2 | 9A05886700 | INDICATOR,VOL | |
| 3 | 9A05886800 | KNOB,ROTARY | |
| 4 | 9A05325000 | BADGE,TEAC | |
| 5 | 9A05886900 | PANEL,FRONT | |
| 6 | 9A05887000 | INDICATOR,FUNC | |
| 7 | 9A05887200 | KNOB,POWER | |
| 8 | 9A05887300 | KNOB,SPEAKER | |
| 9 | 9A05887400 | KNOB,TACT | |
| 10 | 9A05887500 | ORNAMENT,REMOTE | |
| 11 | 9A05887600 | HOLDER,REMOTE | |
| 12 | 9A05918700 | SUB PCB ASSY | |
| 13 | | VOLUME PCB ASSY | |
| 14 | 9A05891100 | CHASSIS,FRONT | |
| 15 | ▲ 9A05897800 | TRANS,POWER [E] | |
| | ▲ 9A05910000 | TRANS,POWER [GE] | |
| 16 | 9A05891300 | CHASSIS,BOTTOM | |
| 17 | 9A05891400 | FOOT,FRONT | |
| 18 | 9A05891500 | FOOT,CUSHION | |
| 19 | 9A05891600 | HEAT SINK | |
| 20 | 9A05891700 | BRACKET,HEAT | |
| 21 | 9A05919000 | MAIN PCB ASSY | |
| 22 | 9A01375500 | PCB HOLDER | |
| 23 | 9A05891900 | PLATE,BOTTOM | |
| 24 | 9A05892000 | GUIDE,BOTTOM | |
| 25 | 9A05892100 | PANEL,REAR | |
| 26 | ▲ 9A01376900 | CORD PUSHING | |
| 27 | ▲ 9A05892200 | CORD,POWER [E] | |
| 28 | ▲ 9A05897600 | CORD,POWER [GE] | |
| 29 | 9A04883700 | GROUND TERMINAL | |
| | 9A05892300 | CABINET,TOP | |
| S1 | 9A01532600 | SCREW | |
| S2 | 9A01535800 | SCREW,KTB3*8J | |
| S3 | 9A05339200 | SCREW KTW3+8J | |
| S4 | 9A05892400 | SCREW | |
| S5 | 9A01377200 | SCREW | |
| S6 | 9A01377400 | SCREW,KTB3*10G | |
| S7 | 9A01377300 | SCREW | |
| S8 | 9A01377600 | SCREW | |
| S9 | 9A05339100 | SCREW KTW3+12J | |
| S10 | 9A05338500 | SCREW KTB3+16J | |
| S11 | 9A01477800 | SCREW,KTB4*8F | |
| S12 | 9A01397700 | SCREW | |

INCLUDED ACCESSORIES

| Ref. No. | Part No. | Description | Remarks |
|----------|------------|----------------------------|---------|
| | 9A05573400 | OWNER'S MANUAL, A-R500/300 | |
| | 9A05808200 | REMOTE TRANSMITTER ASSY | |

Parts marked with * require longer delivery time.

[E] : EUROPE [GE] : GENERAL EXPORT

RESISTORS AND CAPACITORS

Notes : • Part numbers are indicated for most mechanical parts.

Please use this part number for parts order.

- **IMPORTANT SAFETY NOTICE.**

Components identified by  mark have special characteristics important for safety.

When replacing any of these components, use only manufacturer's specified parts.

- The unit of resistance is OHM(Ω)

$K=1000(\Omega)$, $M=1000(\Omega)$

- The unit of capacitance is MICROFARAD(μF)

$P=10^{-6}\mu F$

■ Numbering System of Resistor

Example

| KRD | 25 | F | J |
|------|---------|-------|-----------|
| Type | Wattage | Shape | Tolerance |

| Resistor | Wattage | Tolerance |
|-------------------|---------|---------------|
| KRD: Carbon | 20:1/5W | $F: \pm 1\%$ |
| KRG: Metal Oxide | 25:1/4W | $J: \pm 5\%$ |
| | 50:1/2W | $K: \pm 10\%$ |
| KRF: Metal Cement | 12:1/2W | |
| | 1:1W | |
| | 2:2W | |
| | 3:3W | |

■ Numbering System of Capacitor

Example

| 101 | KCKR | 1H | 101 | K | B |
|-------|------|---------|-------|-----------|-------------|
| Value | Type | Voltage | Value | Tolerance | Peculiarity |

| Capacitor Type | Voltage | | Tolerance |
|--------------------|-----------|------------|----------------------|
| | ECEA Type | Other | |
| KCB:Ceramic | 0J:6.3V | 1H:50V DC | $C: \pm 0.25\mu F$ |
| KDD:Ceramic | 1A:10V | 1:125V DC | $G: \pm 2\%$ |
| KCK:Ceramic | 1C:16V | KC:400V AC | $J: \pm 5\%$ |
| KCFR:Semiconductor | 1E:25V | D25V DC | $K: \pm 10\%$ |
| KCQI:Polyester | 1H:50V | | $Z: \pm 80\%, -20\%$ |
| KCQP:Polypropylene | 1V:35V | | |
| KCQS:Polystyrol | | | |

MAIN PCB ASSY

| Ref. No. | Part No. | Description |
|----------|--------------|--------------------------|
| | 9A05919000 | MAIN PCB ASSY [A-R300] |
| | 9A05919010 | MAIN PCB ASSY [A-R500] |
| | 9A05893200 | MAIN PCB |
| | 9A05897400 | TERMINAL,SPEKER |
| CN05 | 9A05328900 | WAFER MOLEX 5267-02A |
| CN05 | 9A05329300 | WAFER MOLEX 5267-04A |
| CN06 | 9A05890200 | WAFER(11P) |
| CN15 | 9A05328900 | WAFER MOLEX 5267-02A |
| CN20 | 9A05894700 | WAFER(5P) |
| C103,104 | 9A05322200 | C, ELEC A1HQ4R7B |
| C905,906 | △ 9A05922400 | C.,6800UF/63V [A-R300] |
| | △ 9A05894600 | C.,6800UF/63V [A-R500] |
| C909,910 | △ 9A01402000 | C,ELEC 2200UF/25V |
| D101 | 9A01390500 | DIODE,1N4148MT |
| D103 | 9A01390500 | DIODE,1N4148MT |
| D201-203 | 9A01390500 | DIODE,1N4148MT |
| D207 | 9A01390500 | DIODE,1N4148MT |
| D902 | 9A05188900 | DIODE,PBM152F |
| D903-906 | 9A05194700 | DIODE,1N4003ST |
| D908 | △ 9A05894800 | DIODE,ZENER |
| D909 | △ 9A05194500 | DIODE,ZENER UZ5.6BMT |
| D910 | 9A01390500 | DIODE,1N4148MT |
| D911 | 9A01390600 | DIODE,1N4148T |
| IC11 | △ 9A04881100 | IC,STK4192(2) [A-R300] |
| | △ 9A05895000 | IC,STK4231(2) [A-R300] |
| IC31 | 9A05918300 | IC, BVIANAM1128R |
| IC51-54 | △ 9A05195800 | IC,MC4558S |
| IC55,56 | △ 9A04929100 | IC,GD4051B |
| IC91 | △ 9A05895100 | IC MC7815C |
| IC92 | △ 9A05895200 | IC MC7915C |
| IC93 | △ 9A05196000 | IC,MC7812C |
| L101,102 | 9A04875100 | COIL [A-R300] |
| | 9A04895800 | COIL [A-R500] |
| Q201,202 | 9A05892800 | TR.,C3198 |
| Q203 | 9A05895900 | TR.,A1266 |
| Q204,205 | 9A05892800 | TR.,C3198 |
| Q206 | 9A05895900 | TR.,A1266 |
| Q207 | 9A05196900 | TR,KSR1206T |
| Q501-506 | 9A05896000 | TR.,C2878 |
| Q507-509 | 9A03745200 | TR., KVTKSR2206T |
| Q901 | △ 9A01388300 | TR., KVTKSD288Y |
| Q902 | 9A05196800 | TR,KSC2316YT |
| Q903 | 9A03745100 | TR., KVTKSA1175YT |
| Q904 | 9A05196900 | TR,KSR1206T |
| Q905 | 9A05196700 | TR,KSA916YT |
| Q906 | 9A03745000 | TR., KVTKSC2785YT |
| Q907 | 9A03745100 | TR., KVTKSA1175YT |
| Q908,909 | 9A05197400 | TR,KTC3203YT |
| Q910,911 | 9A05895900 | TR.,A1266 |
| RLY1,2 | 9A05897300 | RELAY |
| RLY3 | 9A01423700 | RELAY |
| RLY4 | 9A05897300 | RELAY |
| R109-112 | △ 9A05898100 | R.,3.3KOHM,1/2W [A-R300] |
| | △ 9A05896100 | R.,4.7KOHM,1/2W [A-R500] |
| R119,120 | △ 9A05896300 | R.,0.22-OHM,5W |
| R121,122 | △ 9A05896400 | R.,4.7-OHM,1W |
| R123,124 | △ 9A05338000 | R, METAL 1ANJ100H |
| R151,152 | △ 9A05896500 | R.,390-OHM,2W |
| R901-904 | △ 9A05896900 | R.,12K-OHM,1/2W |
| R905 | △ 9A05897000 | R.,22-OHM,2W |
| R944,945 | △ 9A05897200 | R.,0.47-OHM,1W |

SUB PCB ASSY

| Ref. No. | Part No. | Description |
|----------|--------------|-----------------------|
| | 9A05918700 | SUB PCB ASSY [A-R300] |
| | 9A05918710 | SUB PCB ASSY [A-R500] |
| | 9A05888100 | SUB PCB |
| CN09 | 9A05329100 | WAFER MOLEX 5267-03A |
| CN09 | 9A05329100 | WAFER MOLEX 5267-03A |
| CN13 | 9A05329600 | WAFER MOLEX 5267-06A |
| CN13 | 9A05329600 | WAFER MOLEX 5267-06A |
| CN16 | 9A05329600 | WAFER MOLEX 5267-06A |
| CN16 | 9A05329600 | WAFER MOLEX 5267-06A |
| CN25 | 9A05890200 | WAFER(11P) |
| D301,306 | 9A05890300 | LED, YCF02TO85 |
| D307 | 9A01390600 | DIODE,1N4148T |
| D309 | 9A05194300 | LED,SPR39MVW3 |
| D401 | 9A01390600 | DIODE,1N4148T |
| D450 | 9A05194300 | LED,SPR39MVW3 |
| F901 | △ 9A05306900 | FUSE F2.5A [A-R300] |
| | △ 9A05894900 | FUSE F4A [A-R500] |
| IC31 | 9A05890400 | IC, ANAM1101A |
| IC32 | 9A05195800 | IC,MC4558S |
| IC33 | 9A05424700 | IC BVIRPM638CBL |
| IC35 | 9A05317300 | I.C RE5VA30CC |
| IC41 | 9A05195800 | IC,MC4558S |
| JK04 | 9A05316900 | JACK HTJ064-05BG |
| JK05 | 9A05895400 | JACK |
| JK06 | △ 9A05895700 | OUTLET,AC |
| Q301-306 | 9A05196900 | TR,KSR1206T |
| Q307 | 9A05198800 | TR,KSR2204T |
| Q308-310 | 9A05196900 | TR,KSR1206T |
| Q311 | 9A03745200 | TR., KVTKSR2206T |
| Q312-315 | 9A05198800 | TR,KSR2204T |
| Q316,317 | 9A03745200 | TR., KVTKSR2206T |
| Q318 | 9A05198800 | TR,KSR2204T |
| Q319 | 9A03745200 | TR., KVTKSR2206T |
| Q320 | 9A05198800 | TR,KSR2204T |
| Q321 | 9A03745200 | TR., KVTKSR2206T |
| Q322 | 9A05196900 | TR,KSR1206T |
| Q323 | 9A03745000 | TR., KVTKSC2785YT |
| Q401,402 | 9A03745000 | TR., KVTKSC2785YT |
| Q704,705 | 9A05197400 | TR,KTC3203YT |
| RLY4 | 9A05897300 | RELAY |
| R368,369 | △ 9A01379900 | R., CARBON 1/4W 100 |
| R426,427 | △ 9A01379900 | R., CARBON 1/4W 100 |
| R450 | △ 9A05890500 | R.,100-OHM,1/2W |
| SW31-38 | 9A04882500 | SW,TACT |
| SW39 | 9A05922100 | PUSH SW |
| SW40 | 9A01393800 | SW, SP |
| VR31,32 | 9A05890600 | VR.2X01C104Z |
| VR33 | 9A05890700 | VR.1U02W104Z |
| VR41 | 9A05890800 | VR.1U01503Z |
| VR71 | 9A05893100 | VR. |
| X301 | 9A05890900 | CRYSTAL |
| | 9A01393800 | CORE |
| | 9A05917000 | CORE, FILTER RING |

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